

Message Text

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USOECD

PASS ERDA FOR VANDERRYN, OES FOR PROCHNIK

E.O. 11652 N/A

TAGS: ENRG, OECD

SUBJECT: PRESS RELEASE FOLLOWING OCTOBER 6 SIGNING
OF IEA R&D AGREEMENTS

1. MISSION IS PROVIDING THE DRAFT TEXT OF THE OECD
PRESS RELEASE TO BE ISSUED AFTER THE SIGNING OF THE
NEW IEA R&D AGREEMENTS ON OCTOBER 6, 1977.

2. BEGIN TEXT -

NOT FOR RELEASE BEFORE 1300 HOURS PARIS TIME,
THURSDAY, 6TH OCTOBER, 1977

IEA/PRESS(77)..

COAL AND SOLAR ENERGY DEVELOPMENT AMONG

NINE NEW R&D AGREEMENTS SIGNED BY IEA

MINISTERS IN PARIS AND BONN

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MINISTERS AND OTHER SENIOR OFFICIALS FROM MEMBER
COUNTRIES OF THE INTERNATIONAL ENERGY AGENCY (IEA)
WILL BE SIGNING NINE NEW ENERGY RESEARCH AND DEVELOP-
MENT AGREEMENTS; SEVEN TODAY IN PARIS AND TWO
TOMORROW IN BONN. THESE NEW AGREEMENTS, COVERING
CO-OPERATIVE PROGRAMMES THAT WILL ULTIMATELY COST

MORE THAN \$130 MILLION, BRING TO A TOOTAL OF TWENTY-EIGHT THE NUMBER OF R&D PROJECTS LAUNCHED SINCE THE IEA WAS STARTED IN NOVEMBER 1974. SEVEN-TEEN OF THE NINETEEN IEA COUNTRIES, PLUS THE EUROPEAN COMMUNITIES, WILL BE INVOLVED IN ONE OR MORE OF THE NEW R&D PROJECTS, WHICH ARE IN THE FIELDS OF COAL RESEARCH, SOLAR POWER, FUSION POWER, GEOTHERMAL ENERGY, WIND POWER, AND HYDROGEN PRODUCTION FROM WATER.

ONE OF TWO COAL AGREEMENTS IS A GERMAN-U.S. STATEMENT OF INTENT TO FUND MULTI-MILLION DOLLAR DEMONSTRATION PROGRAMMES IN COAL GASIFICATION AND THE REFINING OF COAL-BASED LIQUIDS. THE OTHER ACCORD PROVIDES FOR CO-ORDINATION OF GERMAN AND U.S. GOVERNMENTAL R&D PROGRAMMES IN THE FIELD OF COAL LIQUEFAC-TION. THE LATTER IS THE FIRST IEA AGREEMENT FOR ACROSS-THE-BOARD CO-OPERATIVE PLANNING IN A MAJOR ENERGY TECHNOLOGY AREA. THESE AGREEMENTS WILL BE SIGNED TOMORROW IN BONN. THREE OTHER AGREEMENTS IN THE FIELD OF COAL WILL BE SIGNED BY SEVERAL MEMBER COUNTRIES WITHIN THE NEW FEW WEEKS - TWO RELATING TO THE DEVELOPMENT OF COAL GASIFIERS AND ONE ON COAL PYROLYSIS RESEARCH.

THE FIRST STEP HAS BEEN TAKEN IN A MAJOR NINE-
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COUNTRY HARDWARE PROJECT FOR THE CONSTRUCTION IN SOUTHERN SPAIN OF TWO DEMONSTRATION PLANTS PRODUCING ELECTRICITY FROM SOLAR ENERGY. THE PROJECT WILL COMPARE TWO DIFFERENT TECHNIQUES UNDER IDENTICAL SITE CONDITIONS. IN THE FIRST STAGE OF THE PROJECT, A 12-MONTH DESIGN EFFORT WILL BE CARRIED OUT TO ESTABLISH FINAL TECHNICAL CHARACTERISTICS AND DEFINITIVE COST ESTIMATES. AT THE END OF THE STUDY PHASE, PARTICIPANTS WILL DECIDE ON THE CONSTRUCTION PHASE. AUSTRIA, BELGIUM, GERMANY, GREECE, ITALY, SPAIN, SWEDEN, SWITZERLAND AND THE U.S. ARE PARTICIPATING.

TWO PROJECTS IN THE FIELD OF FUSION POWER PROJECTS

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ARE BEING SIGNED. IN ONE, CO-OPERATION WILL CENTRE ON A SIX-YEAR HARDWARE PROJECT TO BUILD A FACILITY IN THE UNITED STATES TO TEST LARGE SUPERCONDUCTING MAGNETS NEEDED FOR THE DEVELOPMENT OF TOKAMAK FUSION REACTORS. EURATOM, SWEDEN AND SWITZERLAND (EXPECTED TO JOIN AT A LATER DATE) WILL COLLABORATE BY FABRICATING AND SHIPPING TO THE U.S. FACILITY SUPERCONDUCTING MAGNETIC COILS. IN THE OTHER PROJECT, WHICH WILL LAST NINE YEARS, CANADA, SWITZERLAND (EXPECTED TO JOIN AT A LATER DATE), TURKEY AND THE U.S. WILL BE CONTRIBUTING SPECIALIZED MANPOWER TOWARDS THE FINAL DESIGN AND CONSTRUCTION OF A TOKAMAK PLASMA TEST BED, CALLED TEXTOR, TO BE BUILT IN GERMANY. EURATOM AND GERMANY ARE FUNDING THE CONSTRUCTION OF THE PLASMA TEST DEVICE, WHICH WILL HELP IN THE DEVELOPMENT OF MATERIALS CAPABLE OF WITHSTANDING THE POWERFUL FORCES AND HIGH TEMPERATURES OCCURRING IN FUTURE FUSION POWER REACTORS.

IN GEOTHERMAL ENERGY, GERMANY, SWEDEN, SWITZERLAND, THE U.K. AND THE U.S. WILL SHARE THE COSTS OF A FIFTEEN-
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MONTH STUDY OF NEW TECHNIQUES AND SYSTEMS FOR EXTRACTING HEAT FROM SUBTERRANEAN HOT DRY ROCKS WHICH ARE THE LARGEST POTENTIAL SOURCE OF GEOTHERMAL ENERGY.

TWO AGREEMENTS ON WIND POWER R&D ARE BEING SIGNED. THE FIRST, INVOLVING DENMARK, GERMANY, SWEDEN, AND

THE U.S., COMMIT EACH PARTICIPANT TO DEPLOY ONE OR MORE LARGE-SCALE WIND POWER GENERATORS IN THE 1MW TO 5MW RANGE. THE SECOND AGREEMENT INCLUDES THE ABOVE FOUR COUNTRIES PLUS AUSTRIA, CANADA, IRELAND, NETHERLANDS, AND NEW ZEALAND AND COVERS FOUR TASKS WITH ALL COUNTRIES PARTICIPATING IN AT LEAST ONE TASK. THE FOUR TASKS INVOLVE STUDIES ON BASIC PROBLEMS INVOLVED IN CONVERTING WIND ENERGY TO ELECTRIC POWER INCLUDING ENVIRONMENTAL AND METEOROLOGICAL ASPECTS, SITING, INTEGRATION INTO ELECTRICITY GRIDS AND ROTOR SYSTEMS.

THE COMMERCIALLY-VIABLE PRODUCTION OF HYDROGEN FROM WATER, WILL BE STUDIED UNDER AN AGREEMENT BEING SIGNED BY BELGIUM, CANADA, GERMANY, ITALY, JAPAN, NETHERLANDS, SWEDEN, SWITZERLAND, THE U.S., AND THE EUROPEAN COMMUNITIES. THE FIRST TASK SET FORTH IN THE AGREEMENT CONSISTS OF CHEMICAL ENGINEERING EVALUATIONS OF THERMOCHEMICAL PROCESSES, AND THE SECOND IS A STUDY OF THE INTERFACE BETWEEN A HIGH TEMPERATURE NUCLEAR REACTOR, USED AS A HEAT SOURCE, AND THE THERMOCHEMICAL PLANT PRODUCING THE HYDROGEN. A THIRD TASK, ASSESSING THE FUTURE MARKETS FOR HYDROGEN, WILL BE ADDED IN THE NEAR FUTURE.

THE NINETEEN PREVIOUSLY AGREED IEA R&D PROJECTS INCLUDE SEVEN IN CONSERVATION, FIVE IN COAL TECHNOLOGY, ONE IN NUCLEAR FISSION SAFETY, FIVE IN SOLAR HEATING AND COOLING AND ONE IN FUSION POWER.

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OGY, ONE IN NUCLEAR FISSION SAFETY, FIVE IN SOLAR HEATING AND COOLING AND ONE IN FUSION POWER.

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BACKGROUND INFORMATION TO IEA PRESS RELEASE
IEA/PRESS(77)..

COAL CONVERSION

FOR WELL OVER A CENTURY THE USE OF COAL HAS BEEN CONFINED ALMOST EXCLUSIVELY TO SUCH APPLICATIONS AS SOLID FUEL OR GAS OF LOW THERMAL VALUE. HOWEVER, THE POTENTIAL FOR COAL TO REPLACE PETROLEUM PRODUCTS AND NATURAL GAS IS VERY CONSIDERABLE PROVIDED THAT RELIABLE AND ECONOMICAL PROCESSES CAN BE DEVELOPED. TWO ACCORDS IN THIS FIELD ARE BEING SIGNED:

(1) A STATEMENT OF INTENT BEING SIGNED BY GERMANY AND THE U.S. WILL PROVIDE FOR GERMAN PARTICIPATION IN A \$50 MILLION PILOT PLANT IN THE U.S. TO REFINES

COAL-DERIVED LIQUIDS AT A SITE TO BE DETERMINED
SHORTLY. THE STATEMENT OF INTENT ALSO PROVIDES FOR

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U.S. PARTICIPATION IN A \$24 MILLION PILOT PLANT FOR
IMPROVED COAL GASIFICATION THROUGH THE "SAARBERG-
OTTO" PROCESS, ABOUT TO BE COMMISSIONED AT
VOLKINGEN, SAARLAND IN GERMANY. THIS IS THE FIRST
TIME THAT THIS PROCESS WILL BE USED TO GENERATE A
LOW BTU GAS FOR DIRECT APPLICATION IN GAS TURBINE-
POWERED ELECTRIC GENERATING STATIONS.

(2) THE MEMORANDUM OF UNDERSTANDING IN THE FIELD OF
COAL LIQUEFACTION WILL BRING THE IMPORTANT GOVERN-
MENTAL DEVELOPMENT PROGRAMMES OF GERMANY AND THE U.S.
INTO CLOSE CO-ORDINATION TO DEVELOP AND DEMONSTRATE
ADVANCED TECHNOLOGIES FOR THE CONVERSION OF DOMESTIC
COALS INTO LIQUID FUELS (SUCH AS MARKETABLE QUALITY
GASOLINE AND HOME HEATING OIL) AND CHEMICAL FEED-
STOCKS.

(3) SMALL SOLAR POWER SYSTEMS

THE GENERATION OF ELECTRIC POWER FROM SOLAR ENERGY
IS A TECHNIQUE WHICH IS STILL IN ITS INFANCY AND
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CONSIDERABLE UNCERTAINTIES EXIST WITH REGARD TO THE RELATIVE MERITS OF THE VARIOUS TECHNICAL OPTIONS AND THE ECONOMIC VIABILITY OF THE TECHNOLOGY AS A WHOLE FOR THE PRODUCTION OF LARGE AMOUNTS OF ELECTRICITY.

IN THIS PROJECT, TWO 500 KWE PLANTS, OF DISSIMILAR TECHNICAL CONCEPTS, WILL BE DESIGNED FOR CONSTRUCTION AND OPERATION ADJACENT TO EACH OTHER ON A SITE NEAR ALMERIA IN SOUTHERN SPAIN, WHICH HAS A HIGH ANNUAL RATE OF SUNSHINE.

ONE OF THE CONCEPTS, THE "DISTRIBUTED COLLECTOR SYSTEM", WILL COMPRISE A PARK OF ABOUT EIGHT HECTARES CONTAINING A LARGE NUMBER OF MIRRORS OF SHORT FOCAL LENGTH AT WHICH THE POWER OF THE SUN'S RAYS WILL BE CONCENTRATED ONTO PIPEWORK CONTAINING A "WORKING FLUID" (I.E. LIQUID OR GAS) WHICH THEN DRIVES A HEAT ENGINE COUPLED TO AN ELECTRIC GENERATOR. THE OTHER CONCEPT, THE "CENTRAL RECEIVER SYSTEM", WILL CONSIST OF A SINGLE BOILER (OR "RECEIVER") PLACED ATOP A CENTRAL TOWER AROUND WHICH AN ARRAY OF MIRRORS WOULD ALSO BE SPREAD OVER AN AREA OF ABOUT EIGHT HECTARES. THESE LARGER MIRRORS, OR "HELIOSTATS", WOULD REFLECT THE POWER OF THE SUN'S RAYS OVER SOME DISTANCE TO THE CENTRAL RECEIVER TO HEAT A WORKING FLUID AND PROVIDE AN INPUT TO A COMBINED HEAT ENGINE/GENERATOR.

THE DESIGN, CONSTRUCTION AND OPERATION OF THE TOTAL COMPLEX WILL BE SUPERVISED BY AN INTERNATIONAL TEAM OF ENGINEERS AND SCIENTISTS DRAWN FROM PARTICIPATING COUNTRIES AND SECONDED TO "PROJECT OPERATING AGENT", A DIVISION OF THE GERMAN AIR AND SPACE AGENCY (DFVLR). PARTICIPANTS WILL BE AUSTRIA, BELGIUM, UNCLASSIFIED

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GERMANY, GREECE, ITALY, SPAIN, SWEDEN, SWITZERLAND AND THE U.S.

FUSION POWER AGREEMENTS

THE CONTROL OF THE FUSION REACTION BY MAGNETIC CONFINEMENT FOR THE PURPOSE OF GENERATING USABLE ENERGY IS RECEIVING HIGH PRIORITY IN EUROPE, JAPAN, NORTH AMERICA AND THE SOVIET UNION BECAUSE OF THE PROSPECT OF AN ENERGY SOURCE BASED ON A CHEAP, VIRTU-

ALLY INEXHAUSTIBLE FUEL THAT OCCURS IN SEA WATER.
A MAJOR PART OF THE RESEARCH WORK CENTRES ON DEVICES
CALLED "TOKAMAKS", WHICH USE POLOIDAL AND TOROIDAL
MAGNETIC FIELDS TO CONFINE AND HEAT THE PLASMA IN
WHICH THE FUSION REACTION TAKES PLACE.

THE BASIC CHALLENGE IS TO ACHIEVE SIMULTANEOUSLY,
IN ONE EXPERIMENT, ALL THE CONDITIONS NECESSARY FOR
A NET PRODUCTION OF FUSION ENERGY. AMONG MANY OTHER
REQUIREMENTS, SCIENTISTS WILL NEED VERY POWERFUL
SUPERCONDUCTING MAGNETS AND MATERIALS CAPABLE OF

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WITHSTANDING VERY HIGH TEMPERATURES AND OTHER POWERFUL
FORCES.

(4) SUPERCONDUCTING MAGNETS FOR FUSION POWER

AS OPERATING AGENT FOR THE PROJECT, THE U.S. WILL
CONSTRUCT IN OAK RIDGE, TENNESSEE, A LARGE COIL TEST
FACILITY CONTAINING A SIX-COIL TORUS, OR DOUGHNUT-
SHAPED CONTAINER, FOR THE TESTING OF VERY LARGE SUPER-
CONDUCTING MAGNETS OF A SIZE THAT HAS NEVER BEFORE
BEEN CONSTRUCTED AND TESTED. FROM THESE MAGNETS IT
WILL BE POSSIBLE TO EXTRAPOLATE TO DESIGNS OF THE
SIZES NEEDED FOR FUSION POWER REACTORS. OTHER PAR-

TICIPANTS, EURATOM, SWEDEN AND SWITZERLAND (EXPECTED TO JOIN AT A LATER DATE) WILL FABRICATE AND SHIP TO THE FACILITY COILS OF DIFFERING DESIGN FOR INCLUSION IN THE SIX-COIL ARRAY. THE SIX-YEAR PROJECT WILL COST AT LEAST \$39 MILLION.

(5) PLASMA WALL INTERACTION IN TEXTOR

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EURATOM (INCLUDING SWEDEN) AND GERMANY WILL JOINTLY FUND THE CONSTRUCTION IN JULICH, GERMANY OF A TOKAMAK PLASMA TEST BED (CALLED TEXTOR) DEVICE DEDICATED TO THE STUDY OF IMPURITIES BUILD-UP IN TOKAMAKS; THE DEVELOPMENT AND TESTING OF METHODS TO CONTROL THE PLASMA BOUNDARY; AND STUDIES OF FIRST WALL MATERIALS, STRUCTURES AND TEMPERATURES. CANADA, SWITZERLAND (EXPECTED TO JOIN LATER), TURKEY AND THE U.S. WILL EACH CONTRIBUTE SPECIALISTS TO BE STATIONED IN JULICH ASSISTING IN THE FINAL DESIGN AND CONSTRUCTION. DURING THE TEXTOR OPERATION PHASE THESE FOUR COUNTRIES WILL BE ABLE TO CARRY OUT THEIR OWN EXPERIMENTS ON THE DEVICE. THE PROJECT WILL COST CLOSE TO \$18 MILLION.

(6) MAN-MADE GEOTHERMAL ENERGY SYSTEMS

THE HEAT ENERGY OF THE EARTH'S CORE IS MANIFEST MOST DRAMATICALLY IN VOLCANIC ERUPTIONS. IN CERTAIN AREAS, HIGH TEMPERATURES OF 100 DEGREES - 300 DEGREES ARE AVAILABLE IN ROCK FORMATIONS AT RELATIVELY SHALLOW DEPTHS OF 1000 - 3000 M. THE WORLD THERMIC ENERGY POTENTIAL FROM SUCH ROCKS IS EXTREMELY LARGE.

MOST OF THESE HOT ROCKS HAVE A LOW WATER CONTENT AND A VERY LOW PERMEABILITY; IT IS DIFFICULT, THEREFORE, TO EXTRACT THE HEAT. HOWEVER, PERMEABILITY CAN BE INTRODUCED BY CRACKING THE HOT DRY ROCKS TO PERMIT THE PASSAGE OF A HEAT TRANSFER FLUID (WHICH IS PUMPED FROM AND BACK TO THE SURFACE) IN SUFFICIENT VOLUMES.

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IN THE FRAMEWORK OF THE IEA AGREEMENT, POSSIBLE TECHNIQUES AND SYSTEMS TO EXTRACT THE HEAT FROM SUCH HOT AREAS WILL BE ANALYSED. NEW TECHNICAL METHODS WILL BE INVESTIGATED IN PARTICULAR IN THE AREAS OF: (1) ACHIEVING ACCESS TO THERMAL RESERVOIRS (THROUGH BOREHOLES, SHAFTS AND CAVITIES); (2) HEAT EXTRACTION (HEAT EXCHANGE FLUIDS, HEAT EXCHANGE SURFACES; (3) ENERGY TRANSPORT TO THE SURFACE AND UNDERGROUND ENERGY CONVERSION; AND (4) ENVIRONMENTAL PROBLEMS (MECHANICAL AND SEISMIC EFFECTS, THERMAL WASTE). ON THE BASIS OF THE ANALYSIS OF THE DIFFERENT TECHNIQUES, TECHNICAL SOLUTIONS AND RECOMMENDATIONS FOR FURTHER NATIONAL OR INTERNATIONAL HARDWARE-DEVELOPMENT AND FIELD TESTING WILL BE DEVELOPED. THE COST OF THE STUDY IS ESTIMATED AT \$600,000. PARTICIPANTS WILL BE GERMANY, SWEDEN, SWITZERLAND, THE U.K. AND THE U.S.

WIND POWER

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SINCE THE 1973-74 INCREASE IN THE PRICE OF OIL, WIND POWER HAS ATTRACTED INCREASING ATTENTION AS A RENEWABLE ENERGY SOURCE. HOWEVER, THE APPLICATION OF THIS ENERGY TO SATISFY A PORTION OF REGULAR DEMAND

REQUIRES A MUCH MORE SYSTEMATIC APPROACH TO DEAL WITH THE TECHNOLOGICAL PROBLEMS OF SIZE OF WIND MACHINES, THEIR ENVIRONMENTAL EFFECTS AND THE POSSIBLE NEED TO STORE THE ENERGY DERIVED FROM THEIR INTERMITTENT OUTPUT. IN PARTICULAR, WIND MACHINES GENERATING 1-5 MW OF ELECTRIC POWER HAVING ROTORS UP TO 100 METERS IN DIAMETER WILL NEED NEW MATERIALS AND TECHNIQUES. THE TWO WIND AGREEMENTS SIGNED ARE AS FOLLOWS:

(7) THE DEVELOPMENT OF LARGE-SCALE WIND ENERGY CONVERSION SYSTEMS

THE PARTICIPANTS (DENMARK, GERMANY, SWEDEN AND THE U.S.) HAVE EACH AGREED TO DEPLOY AND OPERATE AT LEAST ONE LARGE-SCALE SYSTEM OF APPROXIMATELY 1 MW (ELEC-UNCLASSIFIED

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TRIC POWER) OR MORE. INFORMATION EXCHANGE ON NATIONAL PLANNING, TECHNICAL DESIGNS AND DATA WILL BE UNDERTAKEN. EXCHANGES OF SCIENTIFIC PERSONNEL ARE ENVISAGED.

(8) R AND D ON WIND ENERGY CONVERSION SYSTEMS (WECS)

THE FIRST TASK SET FORTH IN THIS AGREEMENT COVERS STUDIES ON THE ENVIRONMENTAL IMPACTS AND OPERATIONAL SAFETY OF LARGE-SCALE WECS. THE STUDIES WILL BE JOINTLY-FUNDED BY AUSTRIA, CANADA, DENMARK, GERMANY, IRELAND, NETHERLANDS, NEW ZEALAND, SWEDEN AND UNITED STATES AND WILL COST \$348,000.

IN THE SECOND TASK A GROUP OF COMPUTER MODELS FOR THE INITIAL SCREENING OF WIND TURBINE SITES WILL BE EXAMINED. THE PARTICIPANTS IN THIS TASK WILL BE CANADA, SWEDEN AND THE U.S.

IN THE THIRD TASK ANALYSES WILL BE CARRIED OUT OF THE ENGINEERING AND ECONOMIC POSSIBILITIES OF LARGE-SCALE WECS IN THE 300 MW RANGE CONVERTING WIND POWER INTO ELECTRICAL POWER, TO BE FED INTO NATIONAL ELECTRICITY GRIDS WITH SPECIAL ATTENTION TO POWER REGULATION AND THE NEED FOR ENERGY STORAGE. THE PARTICIPANTS, GERMANY, NETHERLANDS, SWEDEN AND THE U.S., WILL SHARE THE \$215,000 COST.

THE FOURTH TASK WILL BE TO EXTEND KNOWLEDGE OF THE KEY TECHNICAL ISSUES OF WECS INTO HIGHER POWER REGIONS, INCLUDING ROTOR STRESSES AND OPERATIONAL VIBRATION AND SMOOTHNESS. THIS TWO-YEAR, JOINTLY-

FUNDED PROJECT WILL COST \$390,000 AND THE PARTICIPANTS
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WILL BE DENMARK, GERMANY, NETHERLANDS, SWEDEN AND THE
U.S.

(9) HYDROGEN PRODUCTION FROM WATER

AT PRESENT, THE PRINCIPAL USES OF HYDROGEN ARE IN
THE CHEMICAL INDUSTRY, FOR THE PRODUCTION OF AMMONIA
AND METHANOL, AND IN THE PETROCHEMICAL INDUSTRY.
THE ONLY CURRENT ECONOMICAL MASS PRODUCTION IS DERIVED
FROM A RAPIDLY DIMINISHING RESOURCE, NATURAL GAS.
LOW COST PRODUCTION OF HYDROGEN FROM WATER WOULD NOT
ONLY ENSURE CONTINUITY OF SUPPLIES FOR PRESENT AP-
PLICATIONS, BUT WOULD ALSO OPEN UP POSSIBILITIES FOR
NEW APPLICATIONS AS A FUEL FOR DOMESTIC AND INDUS-
TRIAL USES, AND, IN THE MORE DISTANT FUTURE, FOR
MOTOR VEHICLES AND AIRCRAFT. AS A POSSIBLE ENERGY
CARRIER (E.G. ELECTRICITY IS AN ENERGY CARRIER)
HYDROGEN HAS INTERESTING CHARACTERISTICS: IT CAN
REPLACE FOSSIL FUELS IN MANY USER CATEGORIES; IT CAN
BE PRODUCED FROM WATER AND RECONVERTED TO WATER WHEN
USED; POLLUTION LEVELS ARE LOW AT THE USER END; IT
CAN BE STORED IN LARGE QUANTITIES; AND IT CAN BE
TRANSPORTED BY PIPELINE SYSTEMS.

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UNLIKE PETROLEUM, IT DOES NOT OCCUR IN SEPARATE FORM IN NATURE; IT MUST BE EXTRACTED FROM THE CHEMICAL COMPOUNDS IN WHICH IT IS BOUND. HOWEVER, THERE ARE STILL LARGE UNCERTAINTIES SURROUNDING DEVELOPMENT AND PRODUCTION COSTS, AND THE ULTIMATE MARKET. THE NEW AGREEMENT COVERS TWO TASKS.

IN THE FIRST TASK, BELGIUM, THE EUROPEAN COMMUNITIES, GERMANY, ITALY, JAPAN, NETHERLANDS, SWITZERLAND, AND THE U.S. WILL CO-OPERATE ON A THREE-YEAR STUDY OF SPECIFIC PROCESS STEPS INVOLVING THERMOCHEMICAL PROCESSES IN ORDER TO IDENTIFY PROBLEM AREAS LEADING TO THE DESIGN OF A COMPLETE THERMOCHEMICAL HYDROGEN PLANT.

IN THE SECOND TASK, THE EUROPEAN COMMUNITIES, GERMANY, ITALY, AND THE U.S. WILL CO-OPERATE OVER A THREE-YEAR PERIOD TO ASSEMBLE THE NECESSARY DATA IN ORDER TO RELATE A SULFURIC ACID-BASED PROCESS FOR HYDROGEN PRODUCTION TO THE ENGINEERING AND UNCLASSIFIED

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ECONOMIC PARAMETERS OF A HIGH TEMPERATURE NUCLEAR HEAT SOURCE.
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Message Attributes

Automatic Decaptioning: X
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Channel Indicators: n/a
Current Classification: UNCLASSIFIED
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Enclosure: n/a
Executive Order: N/A
Errors: N/A
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Review Media Identifier:
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
SAS ID: 1326202
Secure: OPEN
Status: NATIVE
Subject: PRESS RELEASE FOLLOWING OCTOBER 6 SIGNING OF IEA R&D AGREEMENTS
TAGS: ENRG, OECD
To: STATE
Type: TE
vdkgvwkey: odb://SAS/SAS.dbo.SAS_Docs/7d0c0e49-c288-dd11-92da-001cc4696bcc
Review Markings:
Margaret P. Grafeld
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US Department of State
EO Systematic Review
22 May 2009
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